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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,223	09/05/2003	Huei-Jen Chen	2019-0214P	6995
2292	7590	02/09/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			TRINH, MINH N	
			ART UNIT	PAPER NUMBER
			3729	

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/655,223	CHEN ET AL.	
	Examiner	Art Unit	
	Minh Trinh	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group II (claims 6-13) in the reply filed on 11/21/05 is acknowledged. The traversal is on the ground(s) that the examiner has not established a prima facie case of serious burden of examination of the inventions of Groups I and II together. This is not found persuasive because the inventions of Group I and II each have a separate status in the art and clearly have a separate field of search, and the search required for Group I is not required for Group II (as indicated in prior Action, paragraphs 1-2). Moreover, these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper. In accordance with MPEP §803, the examiner has demonstrated that the inventions of Group I and II are each independent or distinct as claimed and a serious burden would be placed on the examiner as discussed above. The requirement is still deemed proper and is therefore made **FINAL**. Thus, Non elected claims 1-5 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Invention I, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement dated 11/21/05. An action on the merits of claims 6-13 as follows.

Specification

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2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: -- A method for fabricating chip package substrate—or the like.

3. The abstract of the invention should have been revised to reflect the elected method invention.

4. “jas” (abstract line 1) should be: --as—instead.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 6-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear whether “a soft circuit board” (claim 6, lines 5-6) is as same as that recited in line 1-2 ?

Also, it is not known exactly what is being “a multilayer soft and hard composite PCB”(claim 6, lines 3), please provide the materials to which applicants in referring to as soft and hard materials.

“said chip package substrate is formed on said . . . removed “ (claim 7, line 4-6) is vague and indefinite, since the claims directed to the chip substrate but not the chip package substrate is form on its self.

"two opposite chip package substrates . . . " (claim 10, lines 4-8) is indefinite since the claim directed to method for forming a chip package substrate but not two (see preamble claim 6).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 6-13 as best understood are rejected under 35 U.S.C. 102(b) as being anticipated by Fukuda et al (6,091,137).

Fukuda et al disclose a method for making chip substrate having a soft circuit board comprising: providing a multilayer PCB having soft and hard composite PCB 1-3 (see Fig. 1), Removing predetermined portions of the multilayer substrate as to form the chip substrate having a soft circuit composite therefrom (see Fig. 1). Further, Fukuda et al also inherently discloses the above as shown in Fig. 8.

As applied to claims 7-8, Fukuda et al discloses limitations of these claims i.e., soft layer 3 extends out of the multi substrate 1-2, and grooves are formed on the substrate (see Fig. 1-3).

Limitation of claim 11 is also met by Fukuda et al (see Fig. 1, depicts at least a soft layer 1 being connected to the soft and hard layer 2 and 3, etc.,)

As applied to claim 13, Fukuda et al disclose the removing of soft layer 1 by drilling (see related Fig. 11a-b, and discussed at col. 2, lines 1-3).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 9-13 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al in view of Ho (6,197,614).

Fukuda et al is silent about the milling process as to form grooves on the substrate. Ho teaches the above process i.e., see the discussion at col. 8, lines 5-17). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the Ho's teaching as described above on to the invention of Fukuda et al for forming pattern or grooves on the substrate by using the known and available techniques.

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Furthermore, it would have been an obvious matter of design choice to use any desired means for forming groove on the substrate including drilling and/or milling or the like since applicant has not disclosed that these features are critical, patentably distinguishing features and it appears that the invention would perform equally well with the etching masking as taught by each of the prior art references (see Fukuda's col. 2, lines 2-11, etc.,).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Trinh whose telephone number is (571) 272-4569. The examiner can normally be reached on Monday -Thursday 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571) 272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mt
1/24/06


MINH TRINH
PRIMARY EXAMINER